

# Entomopathogenic fungi in apple orchards

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Entomopathogenic fungi (EPF) infect and kill insects. Some of those insects are major pests in agricultural ecosystems, such as apple orchards. Here, one of the most important pest insects worldwide is the Codling moth, *Cydia pomonella*. In this study we examine the natural occurrence of EPF in soils of apple orchards in Germany and their virulence against *C. pomonella*. The samples are collected in three of the main apple growing regions in Germany: "Altes Land" in the northern, Kraichgau in the central and Lake Constance in the southern region. Beside the regional distribution, the seasonal occurrence is a matter of particular interest.

To evaluate this, we take soil-samples in spring, summer and autumn and isolate EPF of the genera *Beauveria*, *Isaria* and *Metarhizium*. The previous results indicate, that there is no clear seasonal influence on the occurrence of EPF in apple orchards but a regional difference. *Metarhizium* is much more abundant in the south than in the other regions. *Beauveria* were isolated more often in the north and in the centre than in the south. *Isaria* is less abundant and occurs only in a few of the northern orchards.